

WHAT IS CLAIMED IS:

1. A disk apparatus which reproduces information by irradiating an optical beam to a disk, the disk apparatus comprising:

5           a photodetector which comprises two or more photodetection cells, receives a reflected light from a disk, and outputs a photodetection signal based on the received reflected light;

          a first tracking error signal generator which  
10       detects a phase difference between the photodetection signals from the photodetector, and generates a first tracking error signal corresponding to the phase difference;

          a first variable amplifier which varies the  
15       amplitude of the first tracking error signal;

          a second tracking error signal generator which  
      detects a level difference between the photodetection signals from the photodetector, and generates from the photodetection signal a second tracking error signal  
20       corresponding to the level difference;

          a second variable amplifier which varies the amplitude of the second tracking error signal;

          a combining unit which combines the first and second tracking error signals generated by the first  
25       and second variable amplifiers, and provides a combined tracking error signal;

          a muting unit CPU which mutes one of the first and

second tracking error signals by using the first and second variable amplifiers, according to the largeness of the first and second tracking error signals; and

5 a tracking control unit which controls tracking by using the tracking error signal combined by the combining unit.

2. The disk apparatus according to claim 1, wherein the muting unit comprises section which mutes the first tracking error signal when the first tracking error signal amplitude is lower than a predetermined reference; and section mutes the second tracking error signal when the second tracking error signal amplitude is lower than a predetermined reference.

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3. The disk apparatus according to claim 1, wherein the muting unit comprises section which mutes one of the first and second tracking error signals when the amplitude of the one of the tracking error signals is lower than a predetermined reference.

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4. The disk apparatus according to claim 1, wherein the muting unit comprises section which compares the amplitudes of the first and second tracking error signals, and mutes the tracking error signal with a smaller amplitude.

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5. A disk apparatus which reproduces information by irradiating an optical beam to a disk, the disk apparatus comprising:

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a photodetector which comprises two or more

photodetection cells, receives a reflected light from a disk, and outputs a photodetection signal based on the received reflected light;

5 a first tracking error signal generator which detects a phase difference between the photodetection signals from the photodetector, and generates from the photodetection signal a first tracking error signal corresponding to the phase difference;

10 a second tracking error signal generator which detects a level difference between the photodetection signals from the photodetector, and generates from the photodetection signal a second tracking error signal corresponding to the level difference;

15 a selector CPU which selectively outputs one of the first and second tracking error signals, according to the largeness of the first and second tracking error signals; and

20 a tracking control unit which controls tracking by using the tracking error signal selected by the selector.

6. The disk recording/playback apparatus according to claim 5, wherein the selector comprises section which when the amplitude of one of the first and second tracking error signals is lower than a  
25 predetermined reference, selects the other tracking error signal.

7. The disk apparatus according to claim 5,

wherein the selector comprises section which compares the amplitudes of the first and second tracking error signals, and select the tracking error signal with a larger amplitude.

- 5           8. A method of generating a tracking signal in a disk apparatus which reproduces information by irradiating an optical beam to a disk, comprising:
- receiving a light reflected on a disk by two or more photodetection cells, and outputting the
- 10           photodetection signal based on the received light;
- detecting a phase difference between the photodetection signals, and generating a first tracking error signal corresponding to the phase difference;
- 15           varying an amplitude of the first tracking error signal by using a first variable amplifier;
- generating a second tracking error signal corresponding to a level difference between the photodetection signals;
- 20           varying an amplitude of the second tracking error signal by using a second variable amplifier;
- combining the tracking error signals from the first and second variable amplifiers, and providing a final tracking error signal; and
- 25           muting one of the first and second tracking signals according to the largeness of the first and second tracking signals by using the first and second

variable amplifiers, before the signals are combined by the combining.